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Article abstract

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PARENTAL AND SOCIAL FACTORS PREDICT THRIVING DURING THE TRANSITION TO UNIVERSITY

**Harleen Gill, Kerri Ritchie, Elizabeth Gerhardt,
Kaitlyn Wilson, and Catherine Ann Cameron**

Abstract: This study investigated, through an attachment theoretical lens, the relationship between first-year university students' personal and academic adjustment and 3 psychosocial resources: parental attachment, student resources (parental support, social support, ways of reducing loneliness, emotion regulation, coping strategies, locus of control), and gender. Participants answered questionnaires relating to their psychosocial resources and post-secondary adjustment in first and second term. These data were analysed using a planned regression analysis. In Term 1, paternal attachment predicted students' emotional adjustment, with social and personal resources accounting for this relationship, and was related to academic adjustment via locus of control. Maternal attachment predicted academic adjustment. Gender and locus of control predicted academic performance (as measured by grade point average [GPA]). In Term 2, parental attachment predicted emotional adjustment, with social support accounting for this relationship, but academic adjustment was no longer related to paternal attachment. Overall, gender and locus of control predicted academic success. Suggestions are made for developing transitional theoretical models that address psychosocial processes that will help shape responsive institutional programming and planning in support of incoming college students. These recommendations include designing more personalized programs to match students and their family systems where possible and keeping parents/guardians informed of helpful supports for students' experiences when needed.

Keywords: parental attachment, thriving, adolescent transitions, academic adjustment, social support

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Note: A portion of these findings were presented as a poster at the 2018 Canadian Psychological Association (CPA) Convention, Halifax, Nova Scotia, Canada.

For many Canadian youth, the transition to post-secondary education is a major life event that bridges adolescence and adulthood (Katz & Somers, 2017). Over 2,000,000 students are registered in Canadian post-secondary institutions (Statistics Canada, 2017); in Atlantic Canada alone, 76,595 undergraduate students are enrolled in universities (Association of Atlantic Universities, 2021). However, entry into college or university does not guarantee that a student will graduate with a degree, as the attrition rate for high-school graduates who proceed to post-secondary education is approximately 50% in both the United States and Canada (Dave et al., 2019; Statistics Canada, 2013).

The transition to university requires adjustment beyond that of coping with new academic requirements. Adolescents must create new social networks, balance life and school, consider future occupations, and deal with financial challenges; moreover, they must accomplish all these while establishing independence from their family, often for the first time (Dave et al., 2021; Moilanen et al., 2021). Regardless of whether students eventually succeed or fail, the initial transition to university has been identified as a common source of stress as they attempt to establish equilibrium in their new environments (Maymon et al., 2019). Academic failure, or failure to thrive in university, is often due to lack of psychosocial adjustment rather than intellectual challenges (McMillan, 2016).

Purpose of the Study

Successful university adjustment is associated with many factors, so we selected some potentially important ones to examine: (a) parental attachment, (b) student resources (parental support, social support, ways of reducing loneliness, emotion regulation, locus of control, coping strategies), and (c) gender. This choice of psychosocial factors reflects an attachment theoretical framework:

- **Parental attachment:** Youth often critically depend upon familial supports in the transition to young adulthood. The relationship between parental attachment and adolescent functioning during the transition will be assessed to help inform families about ways of effectively supporting youths during post-secondary education.
- **Student resources:** We seek to identify which factors differentiate between trajectories for success and failure so that academic institutions can better support the development of essential skills that will help incoming students. The goal is to establish critical interventions that will ameliorate students' transitional challenges and improve institutional retention.
- **Gender:** Previous research has found gendered differences in post-secondary success, which we expect to verify.

Literature Review

Adjustment in University

As with other major life changes, success in the transition to university (defined by emotional, social, and academic adjustment) is determined by myriad factors. Emotional adjustment is important, as students who cannot effectively manage their emotions in a new environment may become overwhelmed (Wintre & Yaffe, 2000). Psychosocial adjustment is also considered, as transitional students must acquire new social practices and social networks while releasing some older ones (Scanlon et al., 2020). Finally, academic performance (grade point average [GPA]) is used as an indicator of success, as it relates to expectations, motivation to perform well, and the ability to meet new scholastic demands while adjusting to new freedoms (van Rooij et al., 2018). Successful adjustment to university is critical to youths' socioemotional and economic future, as failure to thrive is related to significant social, psychological, academic, and economic distress (Dyson & Renk, 2006), while success can be “the single most influential determinant in ... ending the cycle of poverty” (Leonhardt & Chinoy, 2019, p. 1).

Attachment Processes

Attachment theory focuses on difficult transitional periods across the lifespan (Howe, 2011) and identifies how security-seeking behaviours can be significant facilitators of thriving (Cameron, 2008; Cameron et al., 2013; Schore, 2017; Schore & Schore, 2008; Vicedo, 2017). Attachment theory highlights the importance of parental and psychosocial support; thus, it is apposite in examining this critical transitional period in late adolescence (Kochanska & Kim, 2013).

Parental attachment, defined as the relationship between offspring and their parents, has been consistently implicated as playing a key role in human adjustment (Mattanah et al., 2011). It typically develops early in life, as children require a stable guardian who is better able to cope with the world than they are (Bowlby, 1988). According to Bowlby (1988), it continues to influence how individuals act throughout their lives, especially during stressful life events. Attachment security, a form of psychological stability that derives from one's parental attachment relationships, is commonly measured in adolescents using the Inventory of Parent and Peer Attachment (Armsden & Greenberg, 1987), which assesses the qualities of trust, communication, and hostility as reported by youths in their relationships with their parents.

Securely attached individuals perceive high levels of trust, good quality communication, and low levels of anger and alienation between themselves and their parents (Mattanah et al., 2011). Secure attachments are also associated with higher academic proficiency (Chen, 2017). In contrast, according to Heister et al. (2009), those with insecure attachments report lower levels of trust and communication, and higher levels of anger and alienation between themselves and their parents. Heister et al. reported that students who had fewer positive relationships had poorer academic, personal, and emotional adjustment, and were more prone to depression and anxiety than those with secure relationships.

Student Resources

Parental Support. In addition to early parental attachment, the level of current perceived parental support influences student adjustment. Parental support not only provides access to emotional and tangible help, but also to validation (Harper et al., 2012). Therefore, parental attachment can influence youth's adaptation to new situations based on their learned expectations for support. Further, Maymon et. al. (2019) found that students who felt supported by parents were significantly better adapted to university than those who did not.

Social Support. In addition to parental support in university, youth require satisfactory peer social support. Social support is defined by the existence of formal or informal helping relationships and whether support from the individual's peers is available (Olsson et al., 2016). The presence of personal social support mediates the impact of stressors such that students with greater social support report better university adjustment than those reporting fewer social supports (Bernardon et al., 2011; Lee et al., 2018).

Loneliness. Most first-year students experience some feelings of loneliness and isolation, especially during the early stages of the transition to college (Hysing et al., 2020; Vasileiou et al., 2019). Emotional loneliness is the subjective feeling of being alone or isolated, while social loneliness can be operationalised as a lack of successful engagement in a social network (DiTommaso & Spinner, 1997). The presence of feelings of loneliness is a critical factor to examine as students who perceive relationships with others as negative or unavailable are at a higher risk for a range of health concerns and have poorer academic performance than youth with positive relationships (Holt-Lunstad, 2017; McMillan, 2016).

Emotion Regulation. The capacity to regulate emotion effectively is a key element of healthy psychological functioning (DeSteno et al., 2013). It includes conscious and less-conscious strategies that individuals use to increase, decrease, or maintain emotional responsivity (Gross, 2001). Bowlby (1988) proposed that effective emotion regulation is influenced by parents: children whose caregivers do not teach them to soothe themselves will struggle to monitor and evaluate emotional experiences effectively later in life. Ames et al. (2011) found that students who perceived, regulated, and openly communicated positive and negative feelings were more responsive to university transition programs.

Coping Mechanisms. Coping mechanisms used by students can further influence how well they adapt to post-secondary education (Compas et al., 2014; Fullerton et al., 2021). Coping can be classified as either emotion- or problem-focused (Dyson & Renk, 2006): individuals using emotion-focused coping attempt to manage their emotions in response to stressful situations, while problem-focused individuals cope by appraising a situation, isolating a problem, and trying to correct it. Active problem-focused coping has been reported to enhance positive college adjustment (Dyson & Renk, 2006; Katz & Somers, 2017).

Locus of Control. As locus of control is a relatively stable trait, it is a good predictor of adjustment in stressful situations (Ryon & Gleason, 2014). Individuals reporting an internal locus of control believe that they are agents responsible for controlling their own life events (Wang & Su, 2013). Bal and Barušs (2011) found that students reporting a strong internal locus of control were more likely to adapt positively to university than those reporting an external locus of control.

Gender

Although gender may not affect university adjustment or performance directly, it can moderate the effects of other factors, such as attachment and perceptions of social support. Significant gendered differences have been reported for university adjustment. Compared to men, women are regularly found to have higher GPAs (Eriksson et al., 2020; Katz & Somers, 2017), report higher levels of general attachment relationship quality (Shannon et al., 2016), and report lower levels of emotional adjustment (Katz & Somers, 2017). Shannon et al. (2016) reported that for women only, relationship quality with mothers was directly related to university engagement, while fathers were indirectly related through promoting self-regulation.

The Present Research

No single factor, nor constellation of factors, can reliably predict success during major life transitions. However, several internal and external factors have been identified as playing a consistent role in successful adaptation to university. Mediating variables are commonly needed to clarify the ways in which specific variables, such as attachment relations, explain differences in students' behavioural and emotional outcomes (Baron & Kenny, 1986; Pardo & Román, 2013). This study develops an attachment-focused model of the psychosocial pathways upon which university success may depend by examining certain core factors that influence successful academic transitions.

Research Questions

How do parental attachment, student resources (parental support, social support, ways of reducing loneliness, emotion regulation, coping strategies, locus of control), and gender relate to university adjustment and academic performance? Hypothesis 1 proposes that student resources will mediate the relationship between parental attachment and students' university adjustment and performance. This hypothesis will be investigated in four steps:

Step 1: Parental attachment will predict university adjustment and performance.

Step 2: Parental attachment will affect student resources.

Step 3: Student resources will predict university adjustment and performance.

Step 4: When entered with student resources, parental attachment's effects on university adjustment and performance will be non-significant.

Hypothesis 2 proposes that there is a relationship between gender and students' university adjustment and performance.

Method

Participants

This research was conducted in accordance with Canadian Psychological Association (CPA) and Society for Research in Child Development (SRCD) regulations for research with human participants, specifically children, families, and youth. After receiving approval from the university ethics review board, we recruited 317 first-year students in Term 1. After three multivariate outliers were eliminated, the Term 1 sample comprised 314 students (196 women, 118 men; mean age = 18.7 years; range = 17–58 years). Of these students, 104 returned to the study during Term 2 (59 women, 45 men; mean age = 19 years; range = 18–58 years). No mean differences in variable reports were detected between Term 1 and Term 2 participants. The 58-year-old student was an outlier in terms of age; however, their responses on measures were not discontinuous from the rest of the sample, and thus were kept in the analysis. Most students were European Canadians, reflecting the general population of New Brunswick, the Canadian province in which the university is located. Most of our sample were first-generation students (the first in their family to attend university) and the rest were second-generation; some lived in residence and others off-campus. Students living in residence were more likely to participate in the Term 2 data collection than those living off-campus: 66% and 76% of participants lived in residence in Term 1 and 2, respectively. The Arts (33%), Business (20%), and Kinesiology (20%) faculties were represented, among others (27%).

Procedure

At the end of September, recruitment signs were posted in students' residences and announcements of the study were made in introductory psychology courses. Volunteers were surveyed in groups of approximately 12 to 25 in their residences or in classrooms. Participants were informed that the study examined first-year university adjustment and that they would be invited to participate in a similar study in the future. In both terms, they signed informed consent forms that included a release of their GPAs from the registrar's office. In March, students were recruited to complete the study's second phase through the e-mail addresses they had provided, or through their places of residence. Following engagement in the study, students were given course participation points if applicable (51% and 50% of participants in Term 1 and 2, respectively).

During both phases, students completed questionnaire packages that included measures of attachment, support, loneliness, mood regulation, and adjustment to university. The order in which the instruments were presented was counterbalanced to control for order effects. Students were informed that the questionnaires would take approximately 45 minutes to complete but that they could take as long as needed. Following this, they were debriefed with a detailed written description of the study.

Power Analysis

A power analysis was conducted for the planned regression analyses that would use the largest number of variables. Using an alpha equal to .05, a sample size of 266 was required to achieve a power level of .80 for a medium effect ($ES = .30$) on adjustment and performance.

Measures

Parental Attachment

The Inventory of Parent and Peer Attachment (IPPA — Mother, Father, and Peer Version; Armsden & Greenberg, 1987) has three 25-item self-report questionnaires measuring current maternal, paternal, and peer attachments. Maternal and paternal scales are individually scored, then combined to form parental attachment scores. The peer subscale was not used. Questions are answered on a 5-point scale where higher numbers represent stronger levels of attachment. In this study, maternal attachment had an internal consistency reliability in Term 1 and 2 of .96 and .95 respectively. Alpha coefficients for paternal attachment were .95 in both terms.

Social Support

The Perceived Social Support from Family Scale (PSS-FA; Procidano & Heller, 1983), a 20-item scale, measures the extent to which an individual feels close to and supported by family members. In this study, internal consistency was .91 in both terms.

The Interpersonal Support Evaluation List — Student Version (ISEL; Cohen & Hoberman, 1983), a 48-item questionnaire, taps into individuals' perceptions of the availability and accessibility of social supports. Respondents indicate whether statements are “probably true” or “probably false” with respect to themselves. In this study, internal consistency reliability was .85 in Term 1 and .84 in Term 2.

Perceptions of Lack of Social Support

The Social and Emotional Loneliness Scale for Adults — Short Form (SELSA-S; DiTommaso et al., 2004), a 15-item measure of social and emotional loneliness, evaluates both romantic and familial aspects of loneliness. Items are rated on a 7-point Likert scale, ranging from 1 (*disagree strongly*) to 7 (*agree strongly*), regarding how they had felt in the last two weeks. Internal consistency reliabilities were: familial loneliness, .80 both terms; social loneliness, .76 Term 1 and .77 Term 2; romantic loneliness, .89 Term 1 and .91 Term 2.

Emotion Regulation

The Generalized Expectancy for Negative Mood Regulation Scale (NMR; Catanzaro & Mearns, 1990) is a 30-item scale with responses on a 5-point Likert scale, from 5 (*strongly agree*) to 1 (*strongly disagree*). It measures beliefs of an individual concerning their ability to control or overcome upsetting emotions. Internal consistencies were .90 in Term 1 and .92 in Term 2.

Adaptation to University

The Student Adaptation to College Adjustment (SACQ; Baker & Siryk, 1984), a 67-item questionnaire, gauges four aspects of college adjustment: academic adjustment, social adjustment, personal-emotional adjustment, and institutional attachment. Students respond to questions using a 9-point Likert scale that ranges from 1 (*Doesn't apply to me at all*) to 9 (*Applies very closely to me*). Internal consistency reliabilities were .83 and .84 for emotional adjustment and .80 and .79 for social adjustment for Term 1 and Term 2 respectively. For academic adjustment, the internal consistency reliability was .84 for both terms. While the Institutional Attachment scale was administered, it was not included in analyses.

GPA

First term and full year GPAs, used to reflect academic performance, were obtained from the university registrar's office with the consent of participants.

Data Analysis

Regression analyses (Baron & Kenny, 1986; Pardo & Román, 2013) examined whether the relationship between two variables (e.g., parental attachment and university adjustment) is mediated by other variables (e.g., student resources). Term 1 variables were used to predict Term 1 outcomes, and Term 2 variables to predict Term 2 outcomes. Analyses were conducted separately for emotional, social, and academic adjustment, as well as for GPA.

Results

Analyses were conducted for all variables in both terms unless otherwise stated. For clarity and concision, only significant effects are reported in this paper. Here, semipartial correlations are used to represent the relationships between the variables, as they take other predictor variables into account when measuring the relationship between predictor and dependent variables by statistically holding the other predictor variables constant.

Hypothesis 1

Step 1: Parental Attachment Will Predict University Adjustment and Performance

Multiple regression analyses with parental attachment (combined, maternal, paternal) were entered simultaneously; university adjustment (emotional, social, academic) and performance (GPA) each served as dependent measures.

Combined Parental Attachment and University Adjustment and Performance: In Term 1, combined parental attachment accounted for 4.5% of the variance in emotional adjustment ($F[2, 311]^1 = 7.387, p = .001$); in Term 2, it accounted for 6.0% ($F[2, 101] = 3.227, p = .05$). For

¹ Sample sizes vary due to removal of outliers from the original samples of 314 participants in Term 1 and 104 in Term 2.

variance in academic adjustment, combined parental attachment accounted for 7.1% in Term 1 ($F[2, 311] = 11.924, p < .001$), and 12.7% in Term 2 ($F[2, 101] = 7.349, p = .001$). In Term 1 only, combined parental attachment accounted for 4.6% of the variance in social adjustment ($F[2, 311] = 7.434, p < .001$). It did not predict GPA in either term.

Paternal Attachment and University Adjustment and Performance: Paternal attachment accounted for 2.2% of the variance in emotional adjustment in both Term 1 ($sr[313] = .15, p = .009$) and Term 2 ($sr[103] = .15, p = .009$). It accounted for 2.2% of the variance in academic adjustment in Term 1 ($sr[313] = .14, p = .01$) and 4.8% in Term 2 ($sr[103] = .22, p = .02$). In Term 1, paternal attachment only accounted for variance in social adjustment (2.6%; $sr[313] = .16, p = .006$). It did not predict GPA in either term.

Maternal Attachment and University Adjustment and Performance: Maternal attachment only accounted for 2.0% of the variance in academic adjustment in Term 1 ($sr[313] = .16, p = .004$). It did not predict GPA in either term.

Summary: These findings lend partial support to Step 1's sub-hypothesis: combined, paternal, and maternal attachment predicted some, but not all, aspects of university adjustment. No parental attachment type (combined, paternal, maternal) predicted university performance in either term. There being no relationship between parental attachment and university performance for student resources to mediate, GPA was not included in further analyses.

Step 2: Parental Attachment Will Affect Student Resources

Maternal and paternal attachment were entered simultaneously to predict student resources: parental support, loneliness (familial, social, romantic), social support, emotion regulation, coping strategies (emotion-focused, problem-focused), and locus of control (internal, external). As expected, there were numerous significant semipartial correlations, as reported in Tables 1 and 2.

Maternal Attachment and Student Resources: Maternal attachment accounted for parental support variance in both Term 1 (43.6%; $sr[313] = .58, p < .001$) and Term 2 (30.2%; $sr[103] = .55, p < .001$), as well as emotion regulation variance in both terms: Term 1, 4.4% ($sr[313] = .21, p < .001$); Term 2, 5.8% ($sr[103] = .24, p = .01$). However, maternal attachment only accounted for variance of social support in Term 1 (3.6%; $sr[313] = .19, p < .001$).

Regarding loneliness, the variance in familial loneliness was accounted for by maternal attachment in both Term 1 (17.6%; $sr[313] = .42, p < .001$) and Term 2 (18.4%; $sr[103] = .44, p < .001$); however, variance in social loneliness was accounted for only in Term 1 (2.6%; $sr[313] = .16, p = .003$). Variance in coping strategies was accounted for by maternal attachment only in Term 2: 3.6% of emotion-focused coping ($sr[103] = .19, p = .04$); and 4.8% of problem-focused coping ($sr[103] = .22, p = .04$).

Table 1. *Term 1 Correlations Between Predictor and Mediator Variables*

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Maternal Attachment		.360**	.691**	.516**	.249**	.025	.284**	.294**	.146*	.151*	.152*
2. Paternal Attachment			.423**	.352**	.276**	-.018	.305**	.278**	.141	.149*	.216**
3. Parental Support				.613**	.270**	.052	.407**	.375**	.277**	.375**	.281**
4. Familial Loneliness					.406**	-.023	.429**	.409**	.142	.175**	.158*
5. Social Loneliness						.134	.570**	.449**	.183**	.141	.248**
6. Romantic Loneliness							.212**	.095	.052	.056	.060
7. Social Support								.500**	.234**	.246**	.392**
8. Emotional Regulation									.334**	.246**	.372**
9. Emotion Coping										.654**	.138
10. Problem Coping											.228**
11. Locus of Control											

Note. $N = 314$. * $p < .01$, ** $p < .001$.

Table 2. *Term 2 Correlations Between Predictor and Mediator Variables*

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Maternal Attachment		.379**	.649**	.529**	.204*	.232*	.195*	.295**	.282**	.320**	.219*
2. Paternal Attachment			.371**	.326**	.307**	.186	.254**	.163	.269**	.312**	.230*
3. Parental Support				.478**	.255**	.152	.357**	.280**	.258**	.312**	.230*
4. Familial Loneliness					.388**	-.030	.370**	.195*	.061	.150	.361**
5. Social Loneliness						.105	.596**	.253**	.319**	.310**	.008
6. Romantic Loneliness							.248*	.207*	.319**	.310**	.008
7. Social Support								.358**	.214*	.275**	.358**
8. Emotional Regulation									.503**	.430**	.371**
9. Emotion Coping										.430**	.371**
10. Problem Coping											.348**
11. Locus of Control											

Note. $N = 104$. * $p < .05$, ** $p < .001$.

Paternal Attachment and Student Resources: In Term 1, paternal attachment accounted for the variance in parental support (3.6%; $sr[313] = .19$, $p < .001$), emotion regulation (3.2%; $sr[313] = .18$, $p = .001$), and internal locus of control (2.9%; $sr[313] = .17$, $p = .002$). Variance in social support was accounted for in both Term 1 (4.8%; $sr[313] = .22$, $p < .001$) and Term 2 (4.4%; $sr[103] = .21$, $p = .03$). Regarding loneliness, 3.2% of the familial loneliness variance was accounted for in Term 1 ($sr[313] = .18$, $p < .001$); while 4.0% of social loneliness variance was accounted for in Term 1 ($sr[313] = .20$, $p < .001$) and 6.2% in Term 2 ($sr[103] = .25$, $p = .01$). Paternal attachment accounted for the variance in coping strategies in Term 2 only: 3.6% of problem-focused coping variance ($sr[103] = .19$, $p = .04$).

Summary: These findings provide partial support for Step 2, as parental attachment affected some, but not all, student resources.

Step 3: Student Resources Will Predict University Adjustment and Performance

Student resources — parental support, loneliness (familial, social, romantic), social support, emotion regulation, coping strategies (emotion-focused, problem-focused), and locus of control (internal, external) — were entered simultaneously into the multiple regression analyses. Emotional, social, and academic adjustment each served as dependent measures.

Emotional Adjustment: Student resources accounted for 26.5% of the variance in emotional adjustment in Term 1 ($F[9, 304] = 12.12, p < .001$) and 22.0% in Term 2 ($F[9, 94] = 2.92, p = .003$). In Term 1, emotional adjustment was predicted by greater social loneliness ($sr[313] = .15, p = .003$), accounting for 2.2% of the variance. Greater adeptness in emotion regulation ($sr[313] = .20, p < .001$) and greater internal locus of control ($sr[313] = .18, p < .001$) predicted emotional adjustment in Term 1, accounting for 4.0% and 3.2% of the variance respectively. In Term 2, emotional adjustment was only predicted by social support ($sr[103] = .23, p = .01$) which accounted for 5.3% of the variance.

Social Adjustment: In Term 1, student resources accounted for 28.2% of the variance in social adjustment ($F[9, 304] = 13.30, p < .001$), and in Term 2 they accounted for 28.1% of the variance ($F[9, 94] = 4.03, p < .001$). Greater social loneliness predicted social adjustment in both Term 1 ($sr[313] = .19, p < .001$; 3.6% of variance) and Term 2 ($sr[103] = .24, p = .008$; 5.8% of variance). Larger social networks also were predictors in both terms: in Term 1, bigger social networks accounted for 4.4% of the variance of social adjustment ($sr[313] = .22, p < .001$), while in Term 2 social networks accounted for 2.9% of the variance ($sr[103] = .17, p = .05$). Only in Term 2 was social adjustment predicted by lower romantic loneliness ($sr[104] = -.17, p = .05$), accounting for 2.9% of the variance.

Academic Adjustment: Student resources accounted for 32.9% of the variance in academic adjustment in Term 1 ($F[9, 304] = 16.56, p < .001$), and 37.9% of the variance in Term 2 ($F[9, 94] = 6.30, p < .001$). A greater internal locus of control predicted academic adjustment in university for both Term 1 ($sr[313] = .30, p < .001$; 9.0% of the variance) and Term 2 ($sr[103] = .31, p < .001$; 9.6% of the variance).

Summary: These results partially supported the sub-hypothesis in Step 3, as student resources predicted university adjustment. Step 3 also predicted that student resources would predict university performance; however, as stated in the Step 1 summary, university performance is excluded from the analyses as no relationship was found between it and parental attachment.

Step 4: When Entered With Student Resources, Parental Attachment's Effects on University Adjustment and Performance Will Be Non-Significant

The final multiple regression analyses explored mediation involving maternal and paternal attachment with student resources — parental support, loneliness (familial, social, romantic), social support, emotion regulation, coping strategies (emotion-focused, problem-focused), and

locus of control (internal, external) — entered simultaneously. The three dependent variables to predict university adjustment are: emotional, social, and academic adjustment. Parental attachment did not predict university adjustment in either term. The relationships between student resources and university adjustment were like those in Step 3.

Emotional Adjustment: Parental attachment and student resources together accounted for 26.7% of the variance in emotional adjustment in Term 1 ($F[11, 302] = 9.99, p < .001$) and 23.7% in Term 2 ($F[11, 102] = 2.57, p = .005$). In Term 1, emotional adjustment was predicted by greater emotion regulation ($sr[313] = .20, p < .001$) and internal locus of control ($sr[313] = .18, p < .001$), accounting for 4.0% and 3.2% respectively. Social loneliness also predicted emotional adjustment ($sr[313] = .15, p = .004$), accounting for 2.2% of the variance. In Term 2, only greater social support predicted emotional adjustment ($sr[103] = .25, p = .008$), accounting for 6.2% of its variance. Figures 1 and 2 illustrate the mediation model for emotional adjustment in Term 1 and 2, respectively.

Social Adjustment: In Term 1 ($F[11, 302] = 10.87, p < .001$) and Term 2 ($F[11, 102] = 3.4, p = .001$), parental attachment and student resources respectively accounted for 28.4% and 29.0% of the variance in social adjustment. Greater social loneliness accounted for 3.2% of the variance and predicted social adjustment ($sr[313] = .18, p < .001$) in Term 1. In Term 2, 4.8% of the variance in social adjustment was accounted for and predicted by social loneliness ($sr[103] = .22, p = .01$). Greater social support predicted social adjustment in Term 1 ($sr[313] = .21, p < .001$), accounting for 4.4% of the variance; in Term 2 ($sr[103] = .17, p = .05$), it accounted for 2.9% of the variance. Only in Term 2 did lower romantic loneliness predict social adjustment ($sr[103] = -.19, p = .04$), accounting for 3.6% of the variation.

Academic Adjustment: Parental attachment and student resources accounted for 33.0% ($F[11, 302] = 13.49, p < .001$) of academic adjustment variance in Term 1, and for 40.4% of variance ($F[11, 102] = 5.69, p < .001$) in Term 2. In both terms, academic adjustment was predicted only by internal locus of control, accounting for 9.0% of the variance in Term 1 ($sr[313] = .30, p < .001$) and 9.6% in Term 2 ($sr[102] = .31, p < .001$).

Summary: These findings lend support to the mediation hypothesis in Step 4. When parental attachment was entered into the regression analyses alongside student resources, the initially observed relationships between parental attachment and university adjustment became non-significant. Following Baron and Kenny (1986) and Pardo and Román (2013), the relationship between attachment and university adjustment was mediated by student resources, as predicted.

Hypothesis 2

One-way analyses of variance (ANOVAs) were used to test for differences between women's and men's responses. In Term 1, women reported higher academic adjustment ($F[1, 313] = 7.29, p = .008$; women $M = 139.4, SD = 26.6$; men $M = 131.7, SD = 20.9$) and higher GPAs than men ($F[1, 287] = 11.48, p = .001$; women $M = 2.7, SD = .89$; men $M = 2.3, SD = 1.1$). In Term 2, the

only group gender difference was women’s higher GPAs ($F[1, 97] = 4.98, p = .028$; women $M = 2.6, SD = .91$, men $M = 2.2, SD = 1.1$), lending support to Hypothesis 2.

Figure 1. *Mediation Model for Students’ Term 1 Emotional Adjustment*

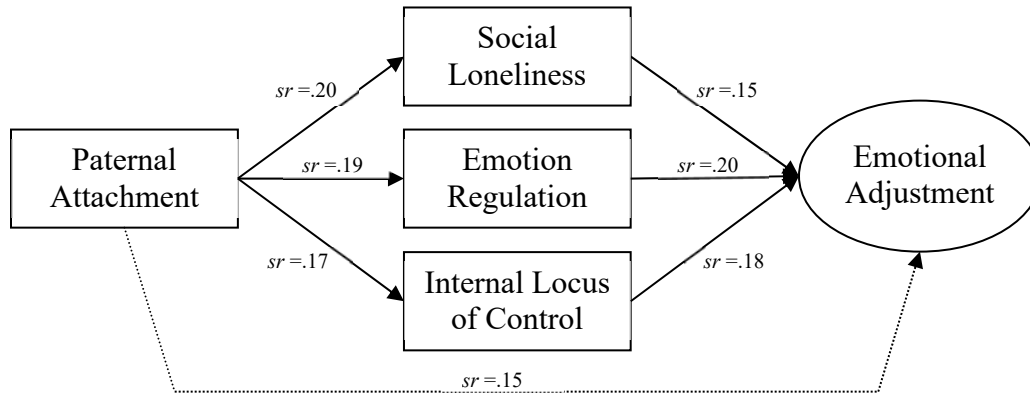
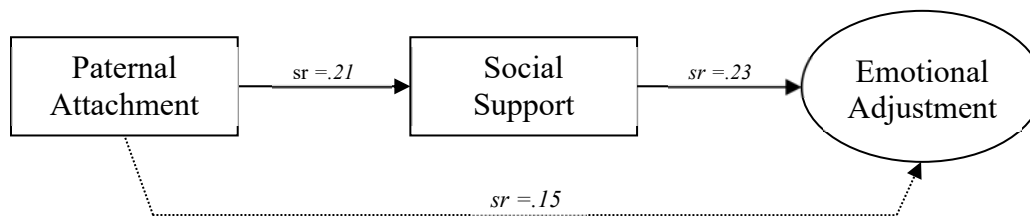


Figure 2. *Mediation Model for Students’ Term 2 Emotional Adjustment*



Discussion

Attachment Theory

Our results are consistent with past and present attachment framework research (e.g., Mattanah et al., 2011; Siegel et al., 2021; Sorokou & Weissbrod, 2005) as they support the hypothesis that certain aspects of parental attachment predict the emotional, social, and academic adjustment of first-year university students. Parental attachment effectively predicted emotional and academic adjustment, but failed to predict GPA directly, suggesting that although parental attachment may associate with student motivation, it may not be sufficient to predict actual achievement. Duchesne and Larose (2007) also reported significant effects of attachment on academic motivation but not performance, suggesting that other environmental and personal elements contribute to GPA.

The expectation that parental attachment would relate to student resources was also supported: parental attachment predicted parental support, familial loneliness, social loneliness, and social support. Maternal and paternal attachment differentially related to student resources with stronger maternal attachments predicting greater parental support, familial loneliness, emotion regulation, and utilization of both emotion- and problem-focused coping, as Bernardon et al. (2011) and

Compas et al. (2014) also found. Stronger paternal attachments predicted social support, loneliness, and problem-focused coping and were uniquely associated with locus of control, suggesting promotion of a greater sense of personal responsibility. These traits, in turn, may lead students to explore new social situations more widely and aid in emotion regulation in stressful situations (Duchesne & Larose, 2007).

Attachment theory commonly designates the mother as the central attachment figure, while simultaneously diminishing paternal attachment. However, many researchers have reported divergent parental attachment roles such as those observed here. For example, Gordon and Cui (2012) reported that adolescents transitioning to high school highlighted relationships with their mothers, but not their fathers, as a source of emotional comfort and support. Perhaps fathers play a more instrumental role that has greater impact after the initial emotional distress of transition decreases; or, as Duchesne and Larose (2007) suggested, father attachment may be better viewed as operating within a practical context (e.g., discussions about future directions) rather than ameliorating general affective distress.

Student Resources

Our study confirmed that, among student resources, loneliness, social support, emotion regulation, and locus of control predict university adjustment. However, the relationship between social loneliness and emotional adjustment was not in the direction expected: students who had greater first term emotional adjustment reported being more socially lonely, but believed they could regulate negative emotions, and reported greater internal locus of control. Paradoxically, greater social loneliness as well as more social support networks predicted social adjustment in both terms. Greater loneliness may signify that relationships were more important to these students, which would predict their actively seeking strong current social support systems in order to develop new relationships. Social support predicted social adjustment and emotion regulation, as more social support related to greater resiliency under stress.

Mediational relations between attachment and student resources together predicted university adjustment. Initially, social loneliness, emotion regulation, and locus of control predicted emotional adjustment, but in Term 2, only social support predicted emotional adjustment. In both terms, greater social loneliness and social support predicted greater social adjustment. Students reporting lower romantic loneliness also reported greater social adjustment.

Overall, internal locus of control predicted academic adjustment. When parental attachment was entered into the regression analyses alongside student resource variables, the associations between parental attachment and university adjustment that were initially observed lost significance. The effects that parental attachments have on university adjustment are mitigated by certain student resources, suggesting that implementing support for development of strong student resources would help all students, perhaps especially those who do not feel they have adequate familial support in their initial transition.

Anecdotal reports from student services personnel of overparenting having deleterious effects on student independence and adjustment to university should be considered alongside these findings. At the department level, staff reported parents coming to them with interpersonal and social concerns, while at the university administration level, they had to deal with parents challenging student grades. Rousseau and Scharf (2015) described overparenting as a developmentally inappropriate level of involvement that focuses on relatedness while disregarding autonomy, leading to such research on the effects of overparenting on youth development as van Ingen et al. (2015). Renk et al. (2005) found that students who were too close to both parents were likely to experience decreased life satisfaction during adulthood transitions, while closeness with mothers led to an increased risk of depression. Programs for new students and their parents could incorporate encouragement for students to develop broad networks of support for independent academic functioning (Măirean & Turliuc, 2011). Encouraging development of broad social networks is especially important given findings that student resources are more valuable for long-term adaptation than is parental attachment.

Limitations and Secondary Questions for Future Research

Further study is encouraged about the role and differential effects of parental attachment and other mediating factors on university adjustment. This may lead to a better understanding of how parenting influences locus of control, emotion regulation, and social support, which can significantly affect successful university transition. Future research should expand the participant pool to balance participants between those who live on- and off-campus and among those who are pursuing various areas of study. Future research would benefit from maintaining students throughout the entire year of study, as the sample size reduction from Term 1 to Term 2 reduces confidence in the Term 2 associations between variables. However, the lack of differences between terms with regard to reports of the independent measures encourages some confidence in the overall findings.

Potential research to pursue includes examining the paradoxical relationship between social loneliness and having many social networks, both of which predicted social adjustment both terms. Perhaps more loneliness represents a reflection of lost earlier relationships, which prompts rather than prevents making new friendships. Questions remain about how youth balance these connections and whether there is another explanation for how loneliness benefits university adjustment. Future research might also investigate how parental attachment loses its association with university adjustment as student resources develop.

University Student Services Policies and Implications for Parents

Services and seminars for successful university transitions should be evidence-based. Both familial and peer social support systems, and personal locus of control, could be encouraged and facilitated through experiential programming for both students and families. The current findings may guide the development and improvement of educational programs for student transition and retention. They may also guide parents, helping them decide when to intervene and when to stand

back and encourage independent functioning. Strong transitional university programs exist that can help parents appreciate the importance of supporting independence through all transitions. Programs should be sensitive to individual differences between students, including differences in their family systems, since family connections can differentially influence which transitional aids are effective. Parents could receive information about continuing youth development and the tools available to assist in weathering university transitions. Learning about events that can cause increased student stress, and how it can be mitigated, may be especially important for parents of first-generation students. Parents might also receive guidance regarding which issues are best left to students to discover and navigate for themselves, and when it is advisable to intervene.

This paper has focused on how youth succeed in their transition to university, with the knowledge that some students struggle more than others due to previous experiences and mental health. As Regehr et al. (2013) reported, 50% of university students experience significant levels of stress that influence their emotional and mental health and their university adjustment. In recent years, social media have been a source of psychological concern for some university students (Closson & Bond, 2019); more recently, the COVID-19 pandemic has exacerbated the psychological stress of university students (Zhang et al., 2021). Our findings indicate that effective coping mechanisms and supports can aid emotion regulation and lead to better university adaptation. By providing effective transitional aid, universities can increase students' likelihood of success.

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